

HLLDT μ L 9109

HIGH VOLTAGE HEX INVERTER

HIGH LEVEL LOGIC DIODE TRANSISTOR MICROLOGIC® INTEGRATED CIRCUITS

A FAIRCHILD COMPATIBLE CURRENT SINKING LOGIC PRODUCT

GENERAL DESCRIPTION

The HLLDT μ L9109 is a high voltage, high threshold hex inverter designed for the conversion of High Level Logic to any logic level from 4V to 15V. The unit is characterized by a 5.0V(min.) DC Noise Immunity and a 20V/100 nsec AC Noise Immunity. The input diode has been left off the circuit so that the input can be expanded to any number of inputs which allows maximum flexibility in use.

The 9109 is available in ceramic Dual In-Line* Package.

FEATURES

High Voltage Operation 12 to 20 V
Utilizes external input diodes to facilitate high density building block approach.
F.O. = 7 CCSL
D.C. Noise Immunity of 5.0V

APPLICATIONS

Interfacing from HLL to CCSL levels.
Line receiver.
General purpose logic level converter

ABSOLUTE MAXIMUM RATINGS

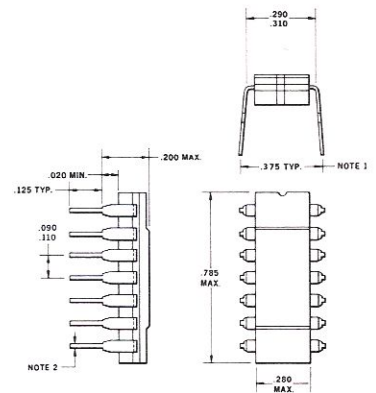
Storage Temperature	-65°C to 150°C
Operating temperature	0°C to 75°C
V _{CC}	25 V
Output Voltage	25 V
Output low current	40 mA

Order No. U6A910959X

*Fairchild Patent pending

TYPICAL DUAL IN-LINE PACKAGE

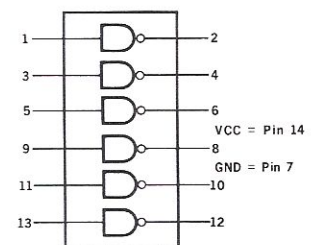
(In accordance with JEDEC TO-116)



NOTES:

1. Leads are intended for insertion in hole rows on .300" centers. They are purposely shipped with ".375" misalignment to facilitate insertion.
2. Board drilling dimensions should equal your practice for a conventional .020 inch diameter lead.

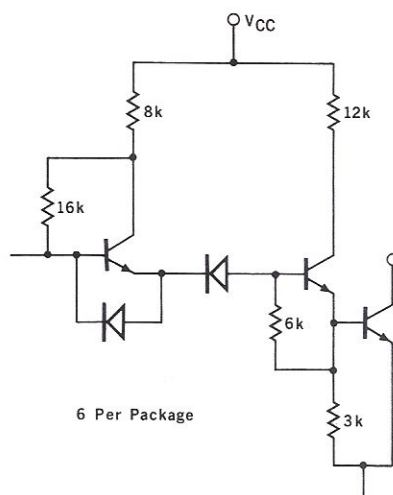
LOGIC DIAGRAM



FAIRCHILD
SEMICONDUCTOR
A DIVISION OF FAIRCHILD CAMERA AND INSTRUMENT CORPORATION

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FAIRCHILD HLLDT μ L INTEGRATED CIRCUITS 9109

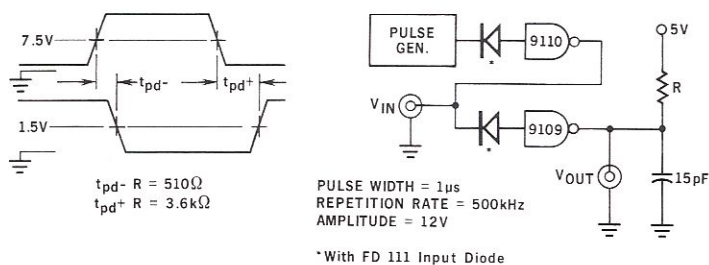


CIRCUIT DIAGRAM

ELECTRICAL CHARACTERISTICS

SYMBOL	DEVICE	LIMITS						UNITS	CONDITIONS AND COMMENTS
		0°C		25°C		75°C			
		MIN.	MAX.	MIN.	TYP.	MAX.	MIN.		
I _{CEX}	9109	75		0.2	75		75	μA	V _{CC} = 20 V, V _{OH} = 20 V V _{IL} = 7.0 V
V _{OL1}	9109	0.5		0.25	0.5		0.5	Volts	V _{CC} = 12 V, I _{OL} = 10 mA V _{IH} = 8.5 V
V _{OL2}	9109	1.0		0.5	1.0		1.0		V _{CC} = 20 V, I _{OL} = 20 mA V _{IH} = 8.5 V,
I _F	9109	-1.22		.80	-1.15			mA	V _{CC} = 20 V, V _{IN} = 0 V
I _{PDH}	9109	30		19	28			mA	V _{CC} = 20 V, Inputs open
I _{PDL}	9109	9.5		6.0	9.0			mA	V _{CC} = 25 V, Inputs Gnd V _{OUT} = 25 V
t _{pd} ⁺	9109			200	400			ns	See switching time test circuit
t _{pd} ⁻	9109			120	200			ns	

NOTE: Tests are performed with FD 111 input diode.



CIRCUIT AND WAVEFORMS FOR SWITCHING TESTS